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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,578	10/31/2003	Masaaki Kurebayashi	16869P-097100US	1657

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EXAMINER	
ALUNKAL, THOMAS D	

ART UNIT	PAPER NUMBER
2627	

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09/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/698,578	KUREBAYASHI ET AL.	
	Examiner	Art Unit	
	Thomas D. Alunkal	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-9,12,13 and 18-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-9,12,13 and 18-20* is/are rejected.

7)☒ Claim(s) *21-23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Arguments

Applicant's arguments, filed 6/19/07, with respect to the rejection(s) of claim(s) 3, 4, 12, 13, and 18-20 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 3-4, 12-13, and 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Fukumoto (US PgPub 2003/0086346).

Regarding claim 3, Fukumoto discloses a method for controlling a writing waveform on an optical disk in an optical disk apparatus in which information is written to said optical disk while a write speed is varied (Abstract), said method comprising the steps of from optimum writing waveforms each established for one of a plurality of write speeds (Figure 3, write speeds v1-vx), determining a writing waveform parameter for an

arbitrary speed other than said plurality of write speeds (Figure 2, Elements S28), irradiating laser light to said optical disk based on said writing waveform parameter to write information (Figure 1, Element 28), and based on information on at least a first writing waveform parameter and a second writing waveform parameter optimum for a highest write speed and a lowest write speed, and a third writing waveform parameter for a middle speed therebetween, deriving a writing waveform parameter for each speed between said highest and said lowest speed (Figure 3, write speeds v1-vx and Paragraph 0045).

Regarding claim 4, Fukumoto discloses an optical disk driving writing system in which constant angular velocity (CAV) writing is performed with an outermost circumference and an innermost circumference (of said disk) set to said highest speed and said lowest speed corresponding to said first waveform parameter and said second writing waveform parameter, respectively, determining a writing waveform parameter for each speed between said inner(most) and outer(most) circumferences when CAV writing is performed based on said information on said third writing waveform parameter for said middle write speed between said innermost and outermost circumferences (Figure 3, write speeds v1-vx and Paragraphs 0010 and 0045).

Apparatus claims 12 and 13 are drawn to the apparatus corresponding to the method of using same as claimed in claims 3 and 4. Therefore apparatus claims 12 and 13 correspond to method claims 3 and 4, and are rejected for the same reasons of anticipation as used above.

Regarding claims 18- 20, these method claims recite limitations similar to those in claims 3 and 4 and are rejected over the same grounds.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukumoto and in view of Sato (US 6,563,775).

Regarding claim 5, Fukumoto does not disclose the specific writing waveform used during CAV writing. In the same field of endeavor, Sato discloses an optical disk unit which utilizes CAV writing (Column 3, lines 1-6) and a writing waveform that has a multi-pulse portion and is divided into three blocks such as a front pulse, said multi-pulse portion, and a back pulse portion (Figure 3), and in a long mark, said front and back pulses are fixed, and only the number of pulses of said multi-pulse portion changes with changing mark length (Figure 6, Elements s8 and s9. More specifically, pulses 1 and 2 of Figure 3 remain constant).

One of ordinary skill in the art at the time of the applicant's invention would have found it obvious to provide the optimum recording pulse of Sato to the method for controlling a writing waveform of Fukumoto, motivation being to make it possible to

always record the information under a stable recording condition in conformance with the CAV system (Column 4, lines 1-7 of Sato).

Regarding claim 6, Sato discloses converting a writing waveform parameter such that average write energy of said multi-pulse portion (per unit time) is maintained at a same value for each linear velocity (Column 13, lines 13-30).

Regarding claim 7, Sato discloses continuously changing power of a bias portion to maintain write energy of said mutli-pulse portion per unit time at a same value (Figure 6, Element s8).

Regarding claim 8, Chen discloses wherein said first writing waveform parameter (for said highest write speed) and said second writing waveform parameter (for said lowest write speed) are optimum parameters though test write operation, said third writing waveform parameter (for said middle write speed between said highest and lowest write speeds) is a recommended parameter for said middle write speed written on said disk before beforehand (Figures 2 and 3, write speeds v1-vx and Paragraphs 0045).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukumoto and in view of Official notice.

Regarding claim 9, Fukumoto discloses a method for controlling a writing waveform on an optical disk (Abstract) and performs CAV writing to a disc from an inner circumference to an outer circumference (Paragraph 0010), said method using a writing

waveform parameter for the outer radius as a first parameter, a writing waveform parameter for the inner radius as a second parameter, a recommend writing waveform parameter for the middle speed on said disk as a third parameter (Figures 2 and 3, write speeds v1-vx and Paragraphs 0045). Fukumoto does not disclose the write speeds recited in the claim. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use 2X, 3X, and 5X as given write speeds, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Furthermore, Fukumoto does not disclose the use of a DVD-RAM as the optical media being recorded on. The examiner is taking Official notice that it was well known in the art at the time of the applicant's invention to use DVD-RAM is conjunction with CAV.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide a DVD-RAM disc to the method of controlling a writing waveform of Fukumoto, motivation being to increase the storage density of the media used in Fukumoto (compact disc).

Allowable Subject Matter

Claims 21-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: Regarding claim 21, the prior art taken either singularly or in combination fails to anticipate or fairly suggest the method as claimed in claim 20, wherein: **said second writing waveform parameter includes a parameter for a multi-pulse component of laser light to be irradiated; and said method further comprises a step of: obtaining said fourth writing waveform parameter by changing bias power of a multi-pulse component of said second writing waveform parameter**.

Regarding claim 22, the prior art taken either singularly or in combination fails to anticipate or fairly suggest the method as claimed in claim 20, wherein: **said second writing waveform parameter includes a parameter for a multi-pulse component of laser light to be irradiated; and said method further comprises a step of: obtaining said fourth writing waveform parameter by changing write power of a multi-pulse component of said second writing waveform parameter**.

Regarding claim 23, the prior art taken either singularly or in combination fails to anticipate or fairly suggest the method as claimed in claim 20, wherein: **said second writing waveform parameter includes a parameter for a multi-pulse component of laser light to be irradiated; and said method further comprises a step of: obtaining said fourth writing waveform parameter by changing a pulse width of a multi-pulse component of said second writing waveform parameter**.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yokoi (2002/0085470) discloses an optical information recorder employing an improved recording power control scheme. Yokoi (US 6,459,666) discloses an information recording apparatus and method.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas D. Alunkal whose telephone number is (571)270-1127. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571)272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas Alunkal/

Examiner AU 2627

THANG V. TRAN
PRIMARY EXAMINER